

Figure 1

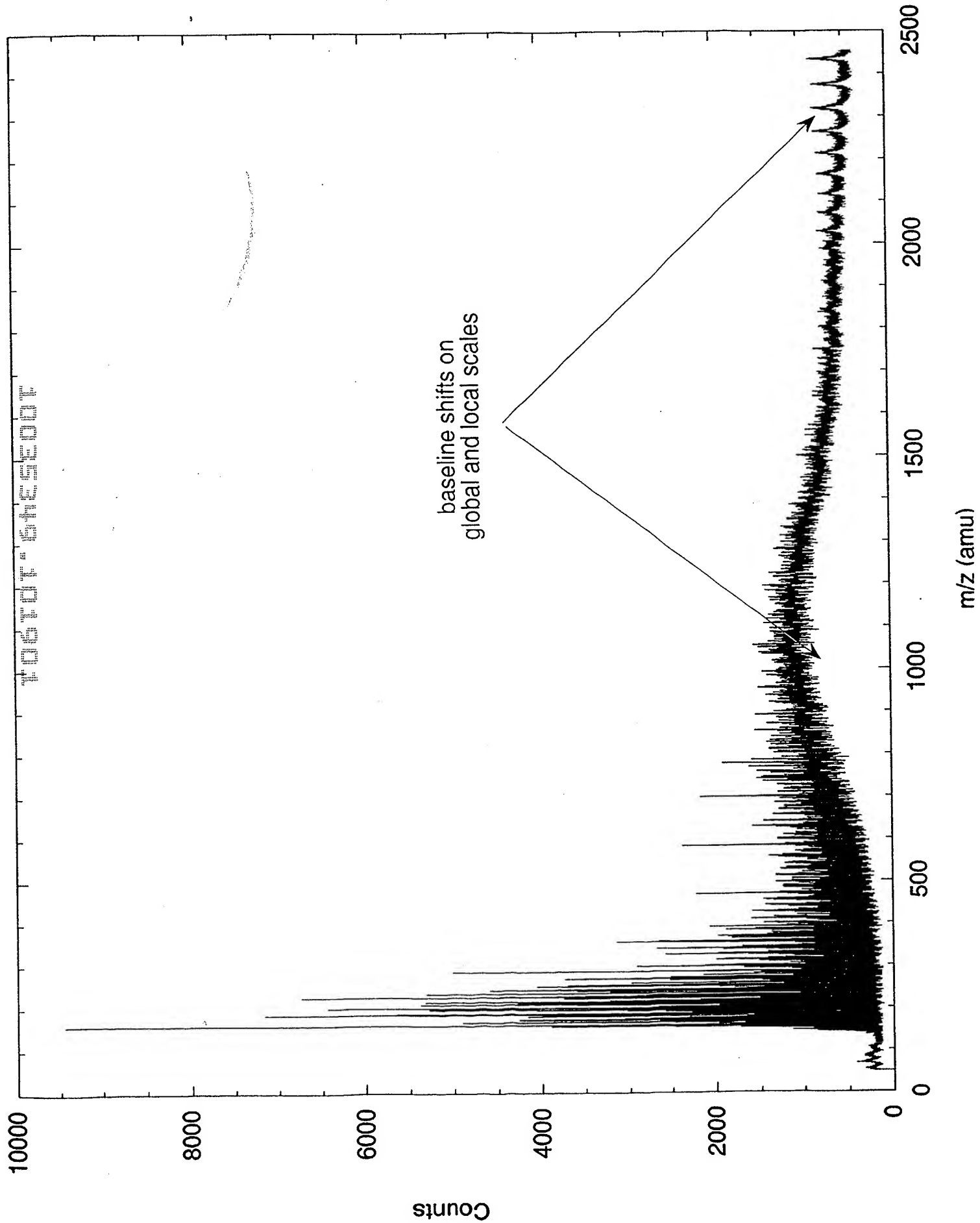


Figure 2

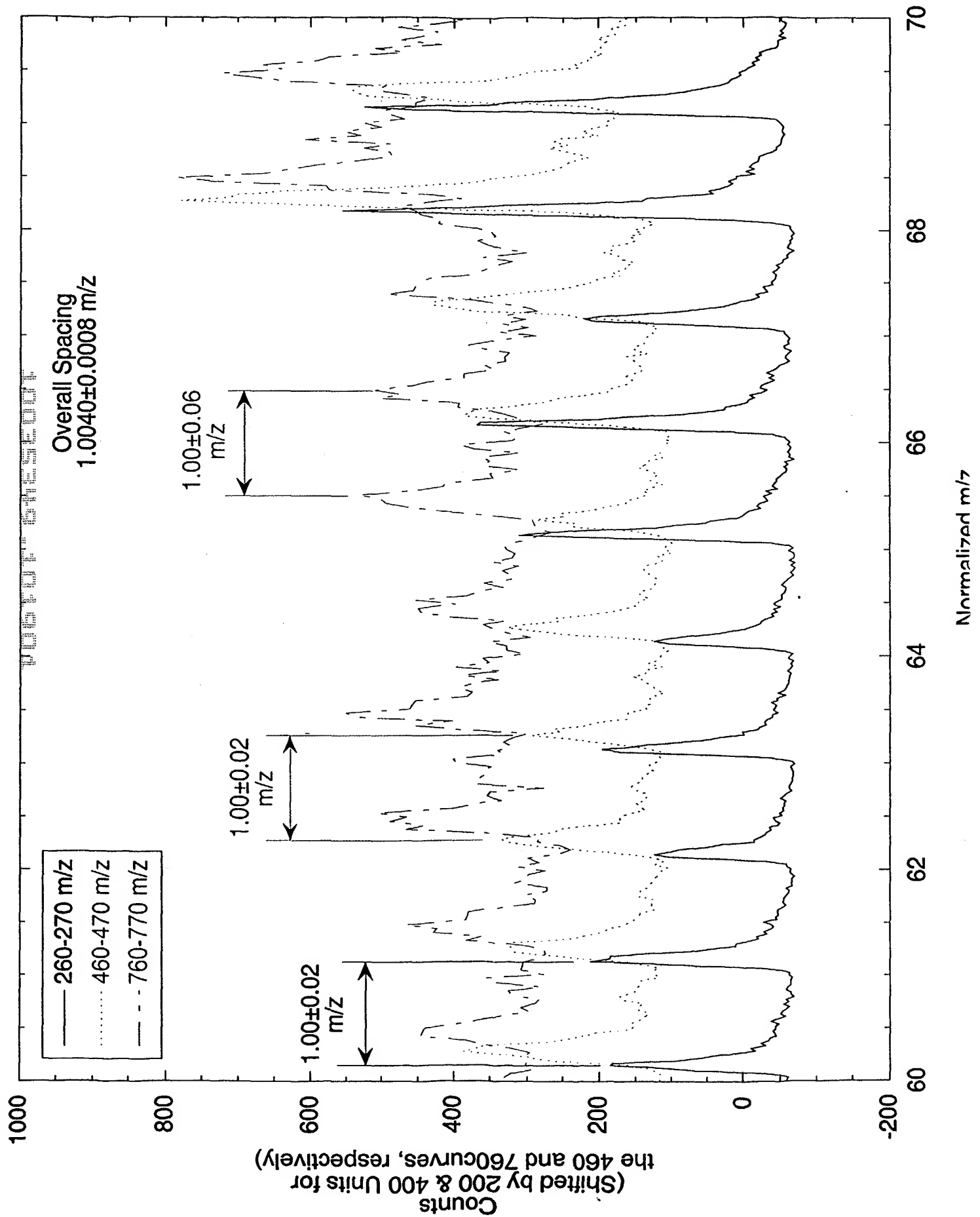


Figure 3

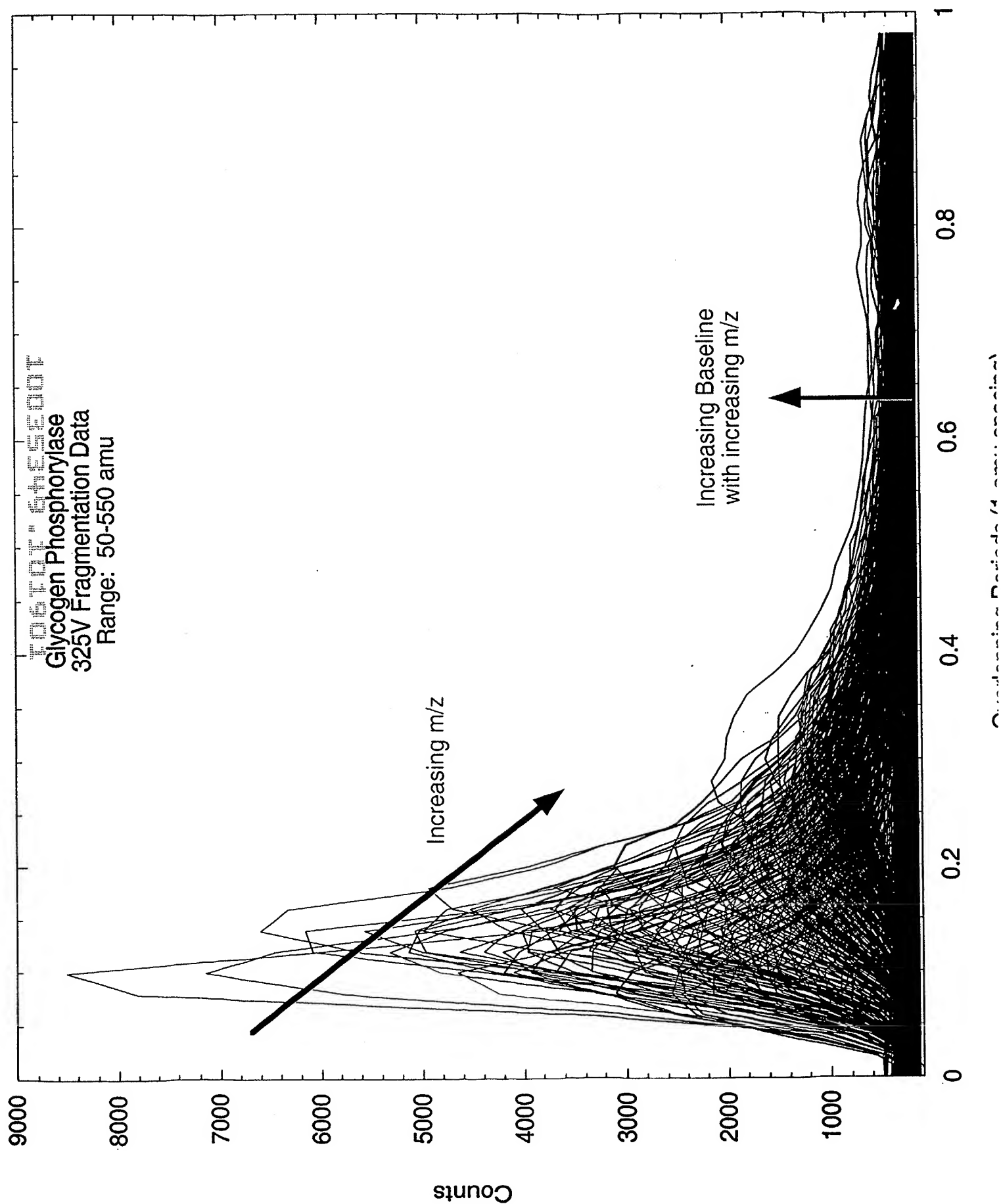


Figure 4

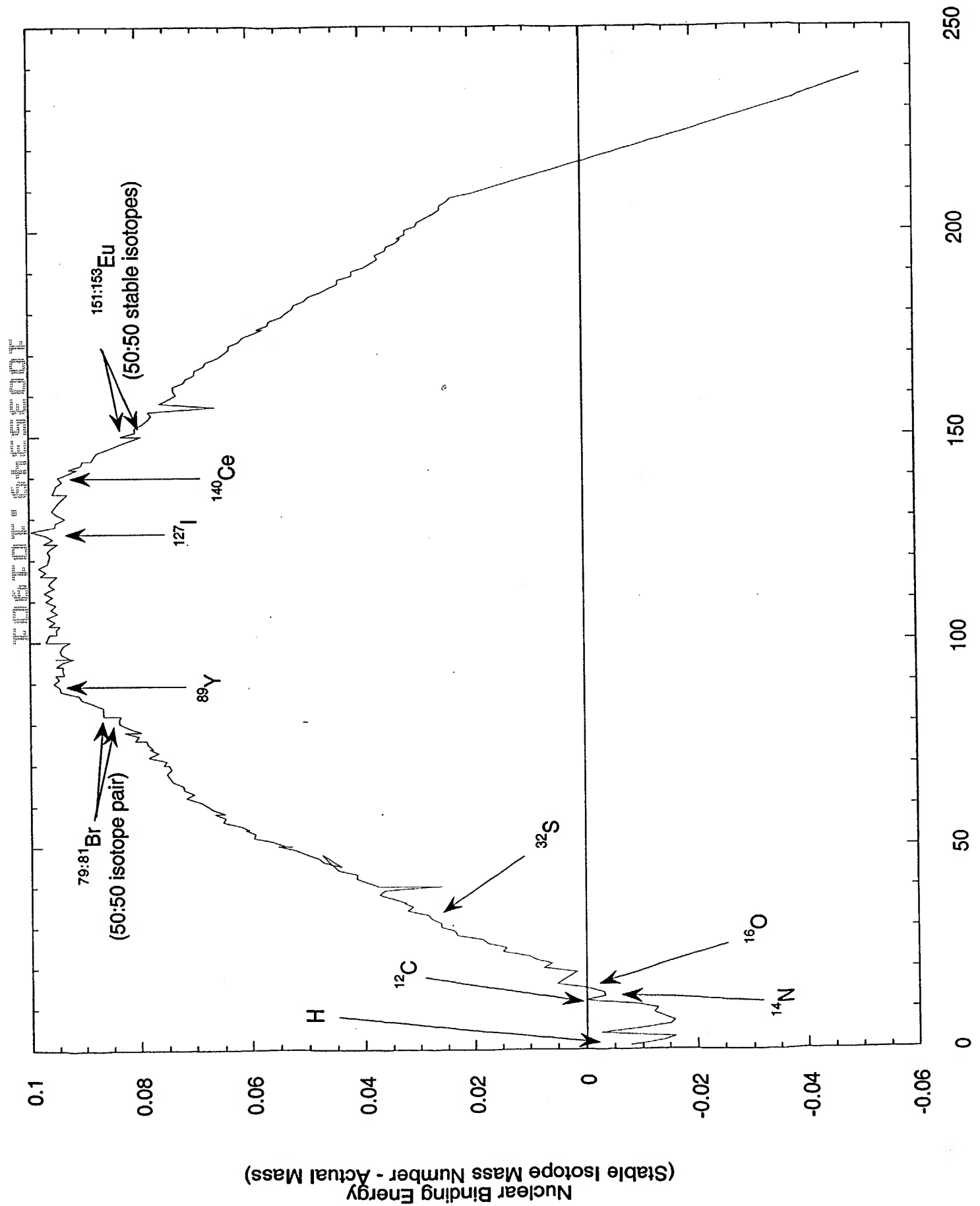




Figure 5

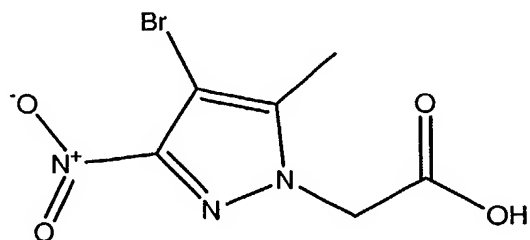
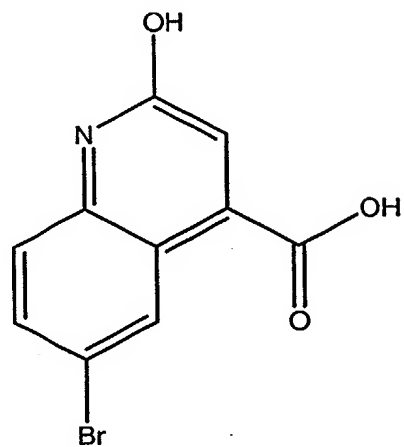
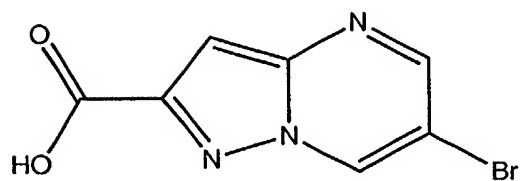
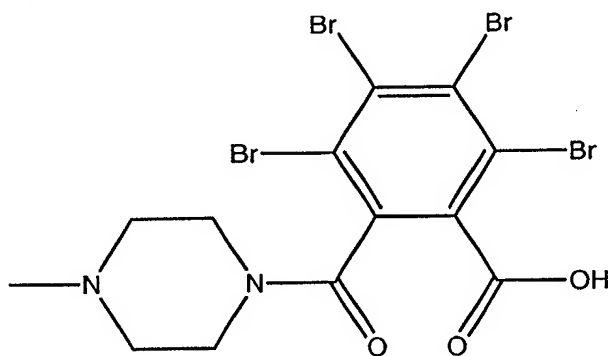
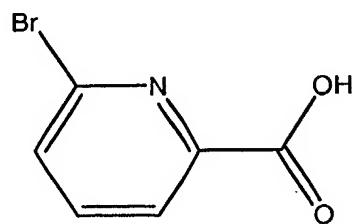
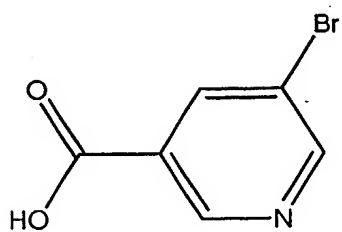
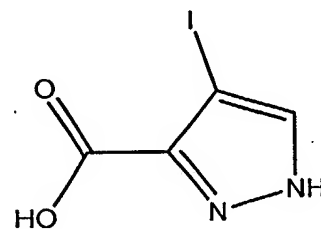
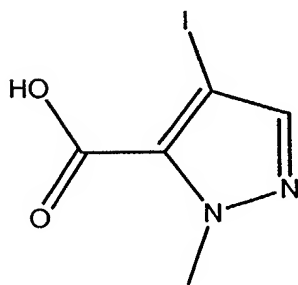
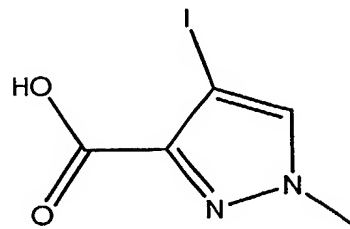
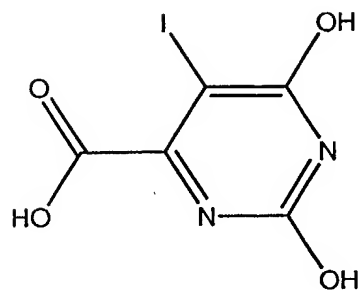


Figure 6



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T05T0T S4E500T

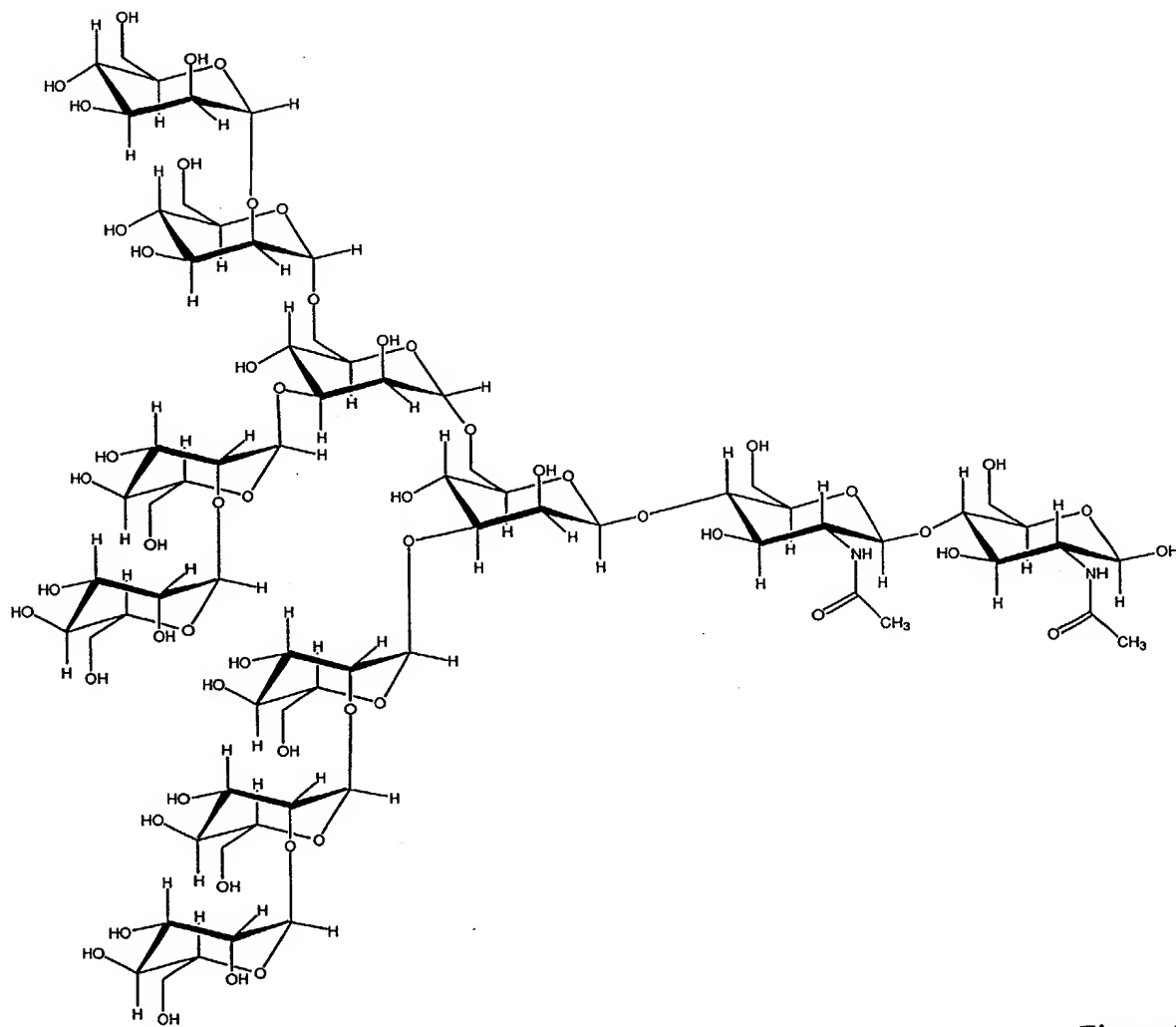


Figure 7

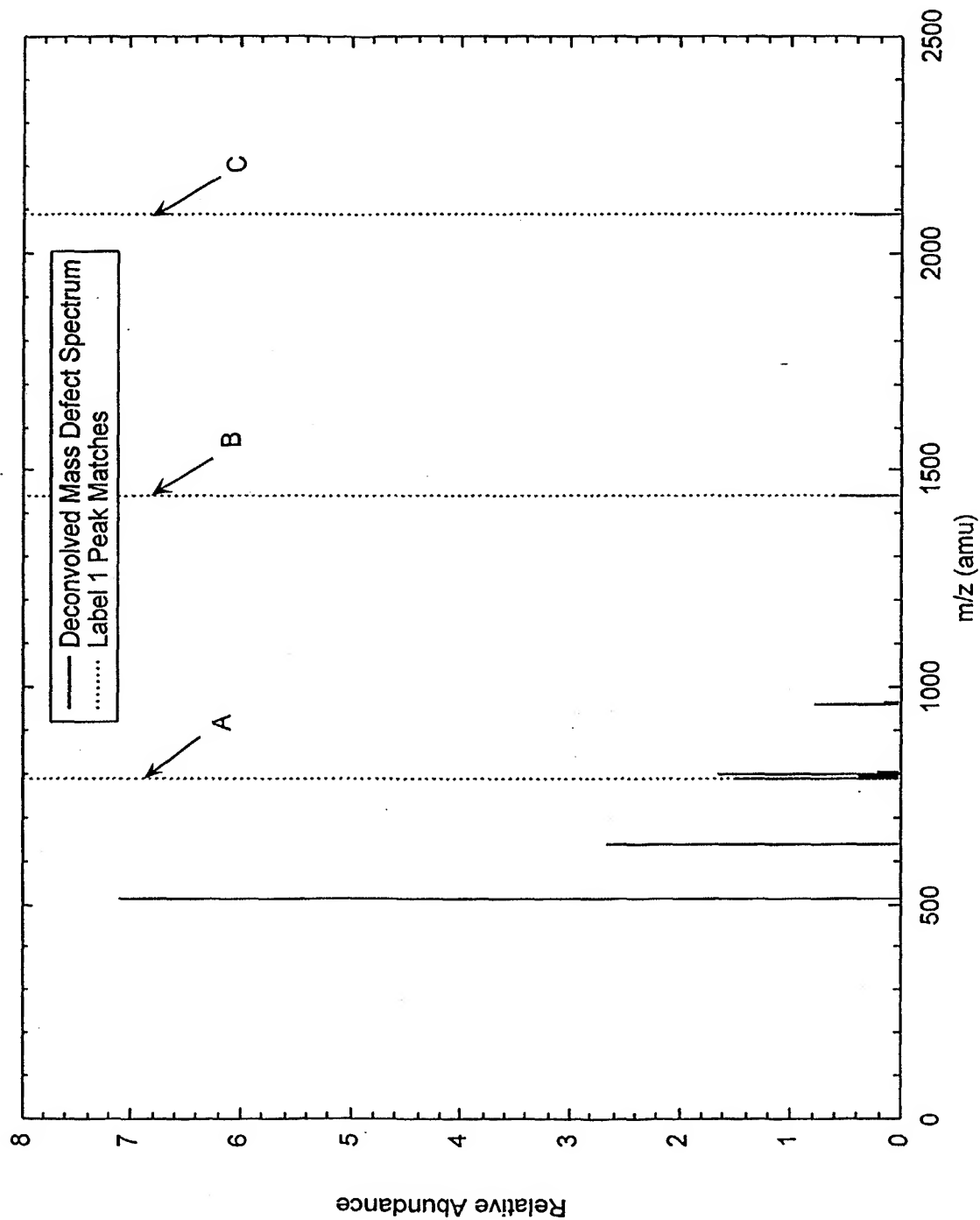


Figure 8A

Atty. Docket No.: 020444-000710
 Applicant: Luke V. Schneider et al.
 Title: MASS DEFECT LABELING FOR THE DETERMINATION OF
 OLIGOMER SEQUENCE
 Sheet 8 of 32

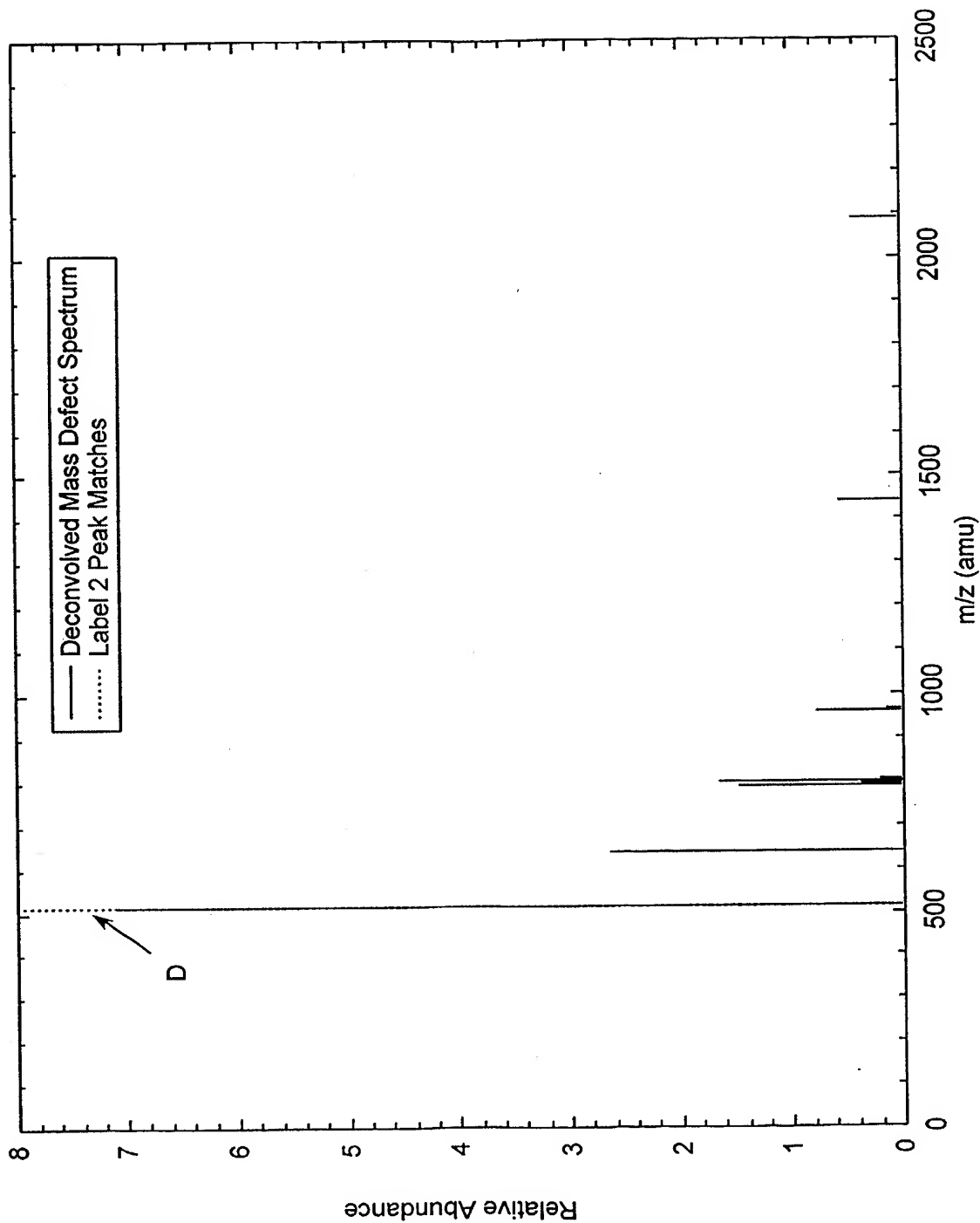


Figure 8B

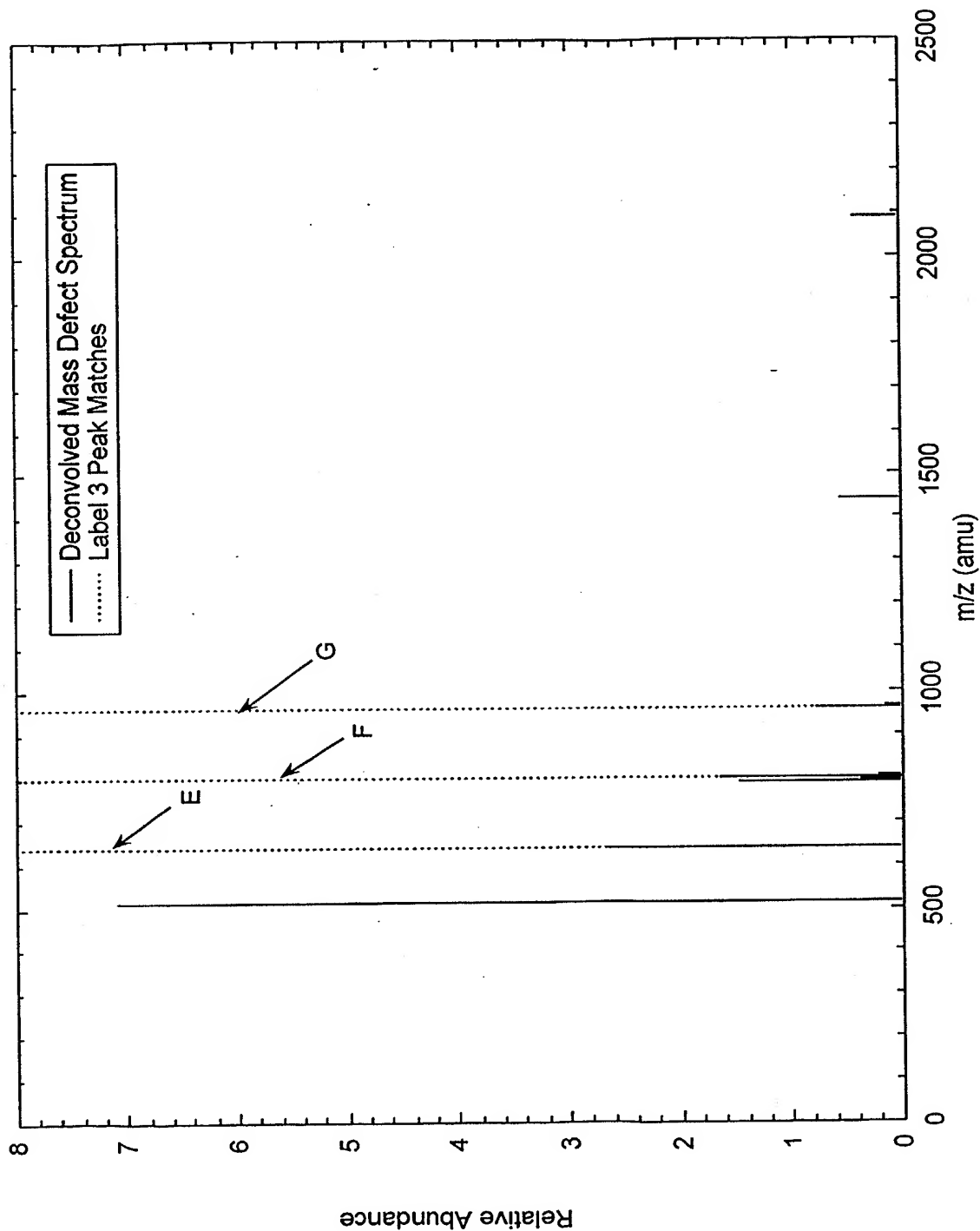


Figure 8C

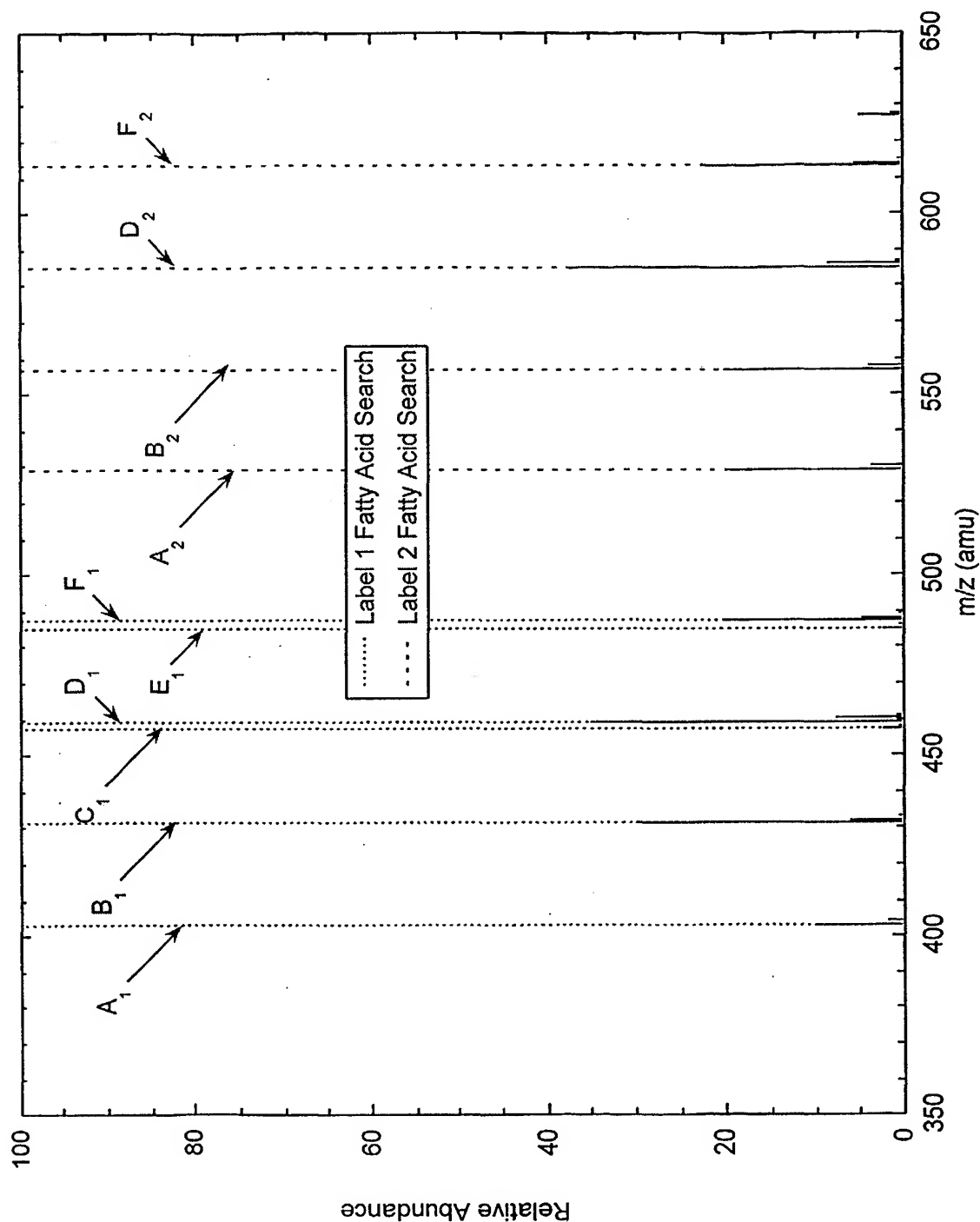
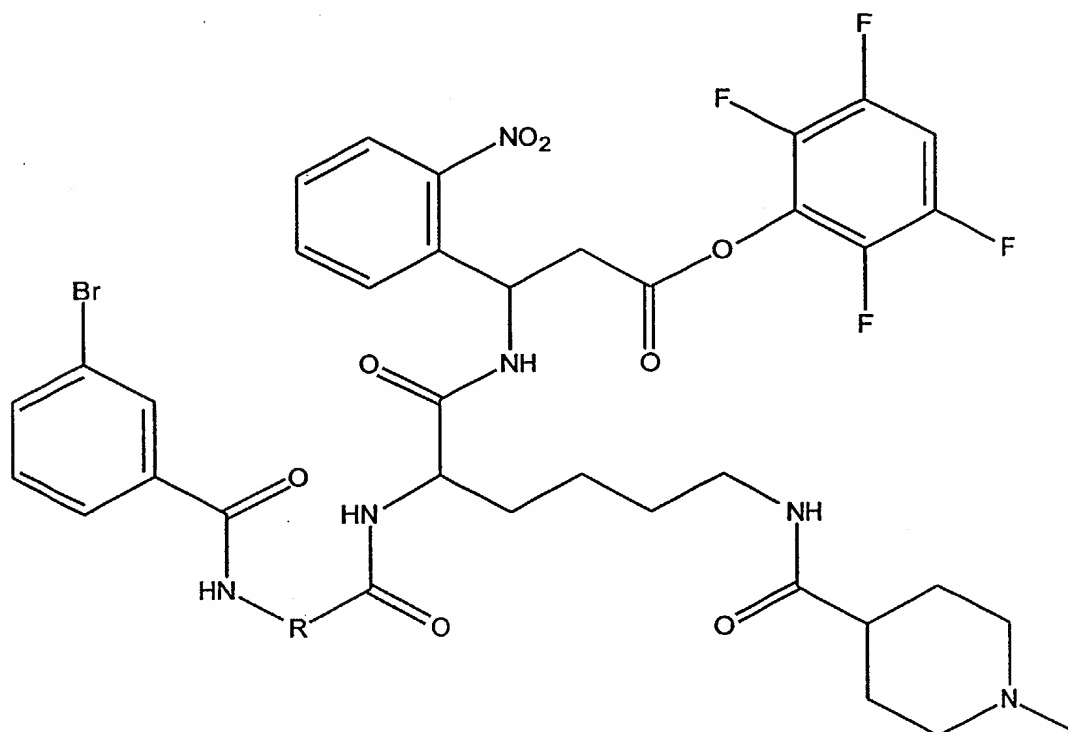


Figure 9

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 Applicant: Luke V. Schneider et al.
 Title: MASS DEFECT LABELLING FOR THE DETERMINATION OF
 OLIGOMER SEQUENCE
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The general structure of the photocleavable mass defect tag where Br is the mass defect element that is linked through the amino acid (R) to the remainder of the tag.

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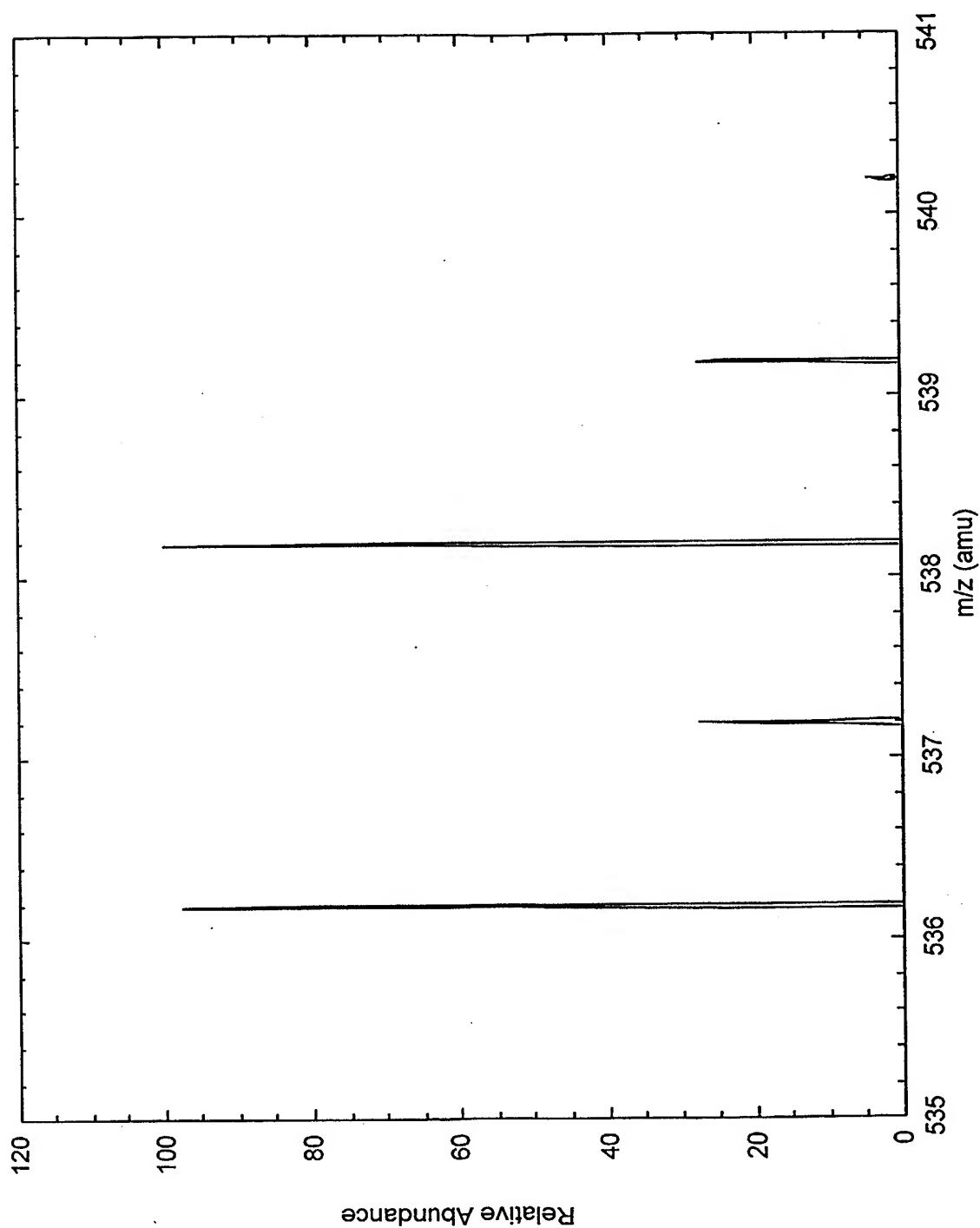
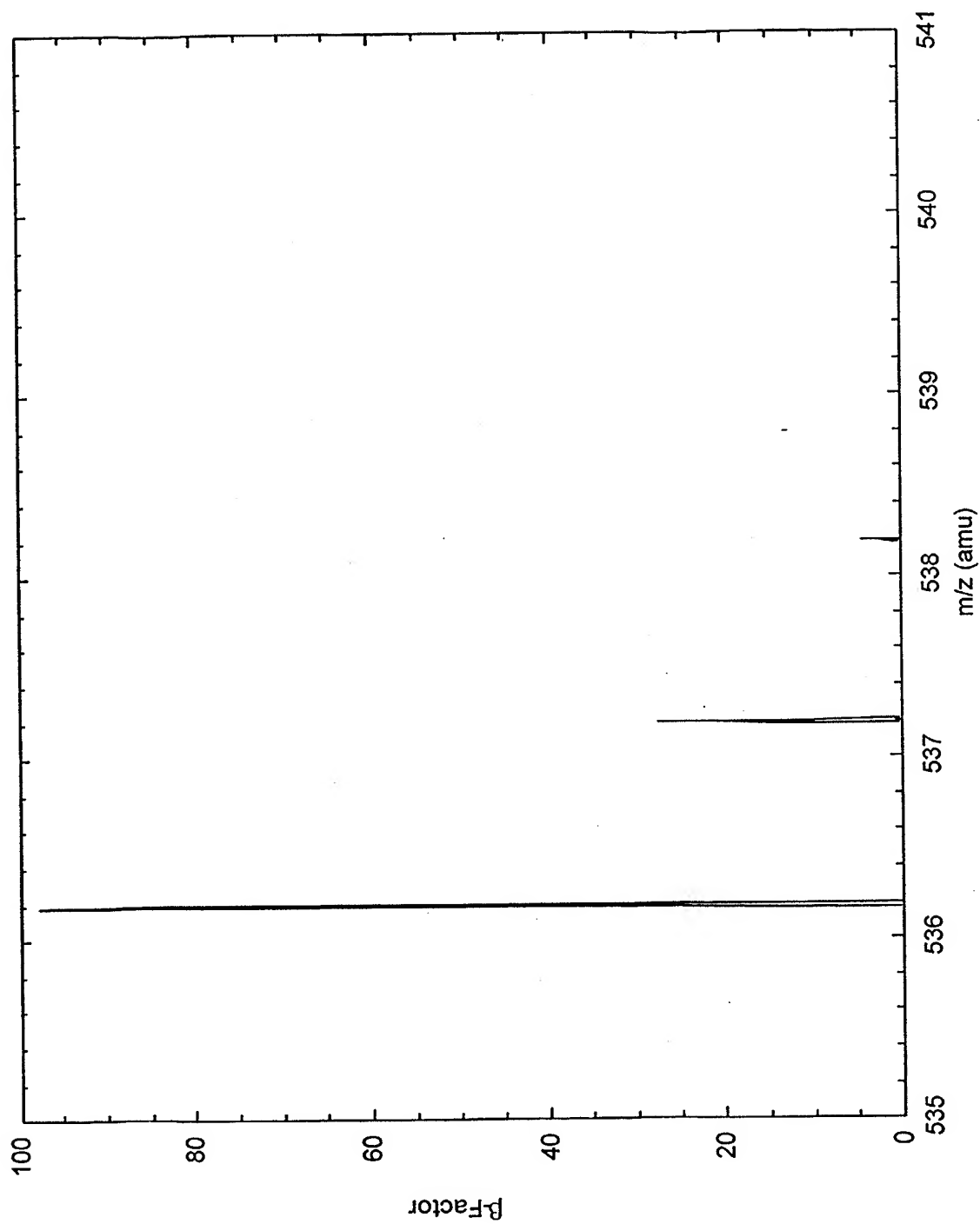


Figure 11A

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 Applicant: Luke V. Schneider et al.
 Title: MASS DEFECT LABELING FOR THE DETERMINATION OF
 OLIGOMER SEQUENCE
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Figure 11B



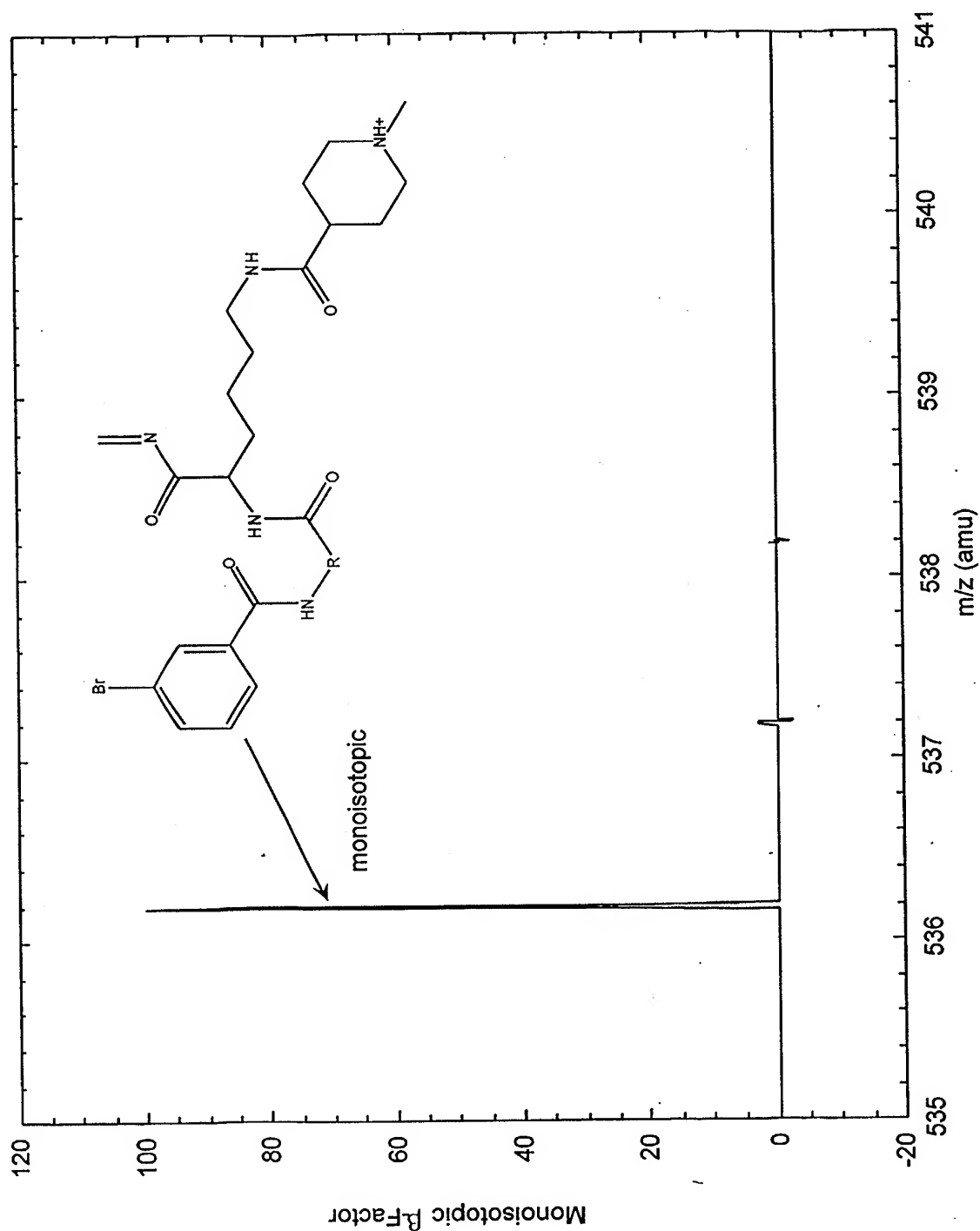


Figure 11C

Atty. Docket No.: 020444-000710
 Applicant: Luke V. Schneider et al.
 Title: MASS DEFECT LABELING FOR THE DETERMINATION OF
 OLIGOMER SEQUENCE
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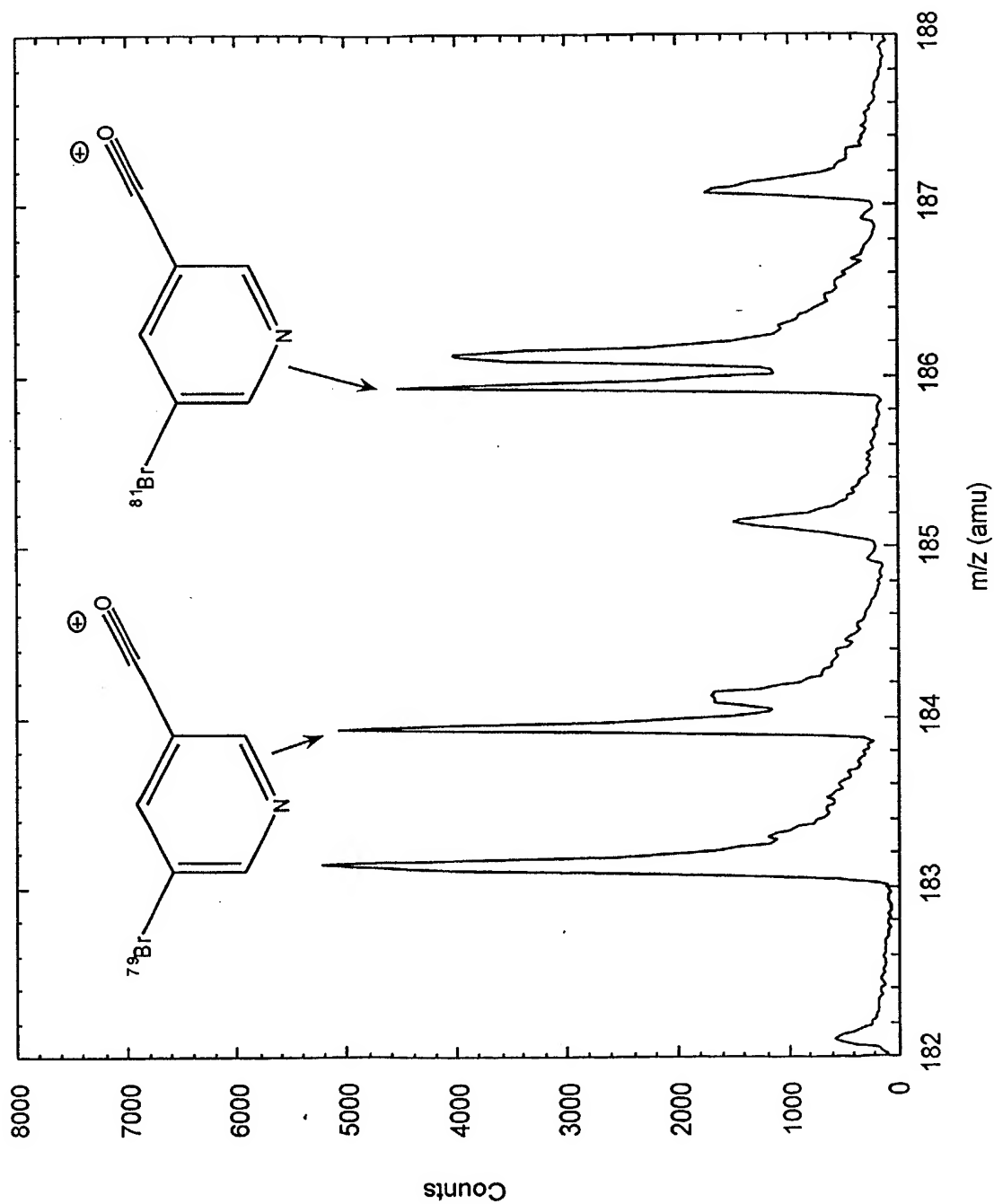


Figure 12A

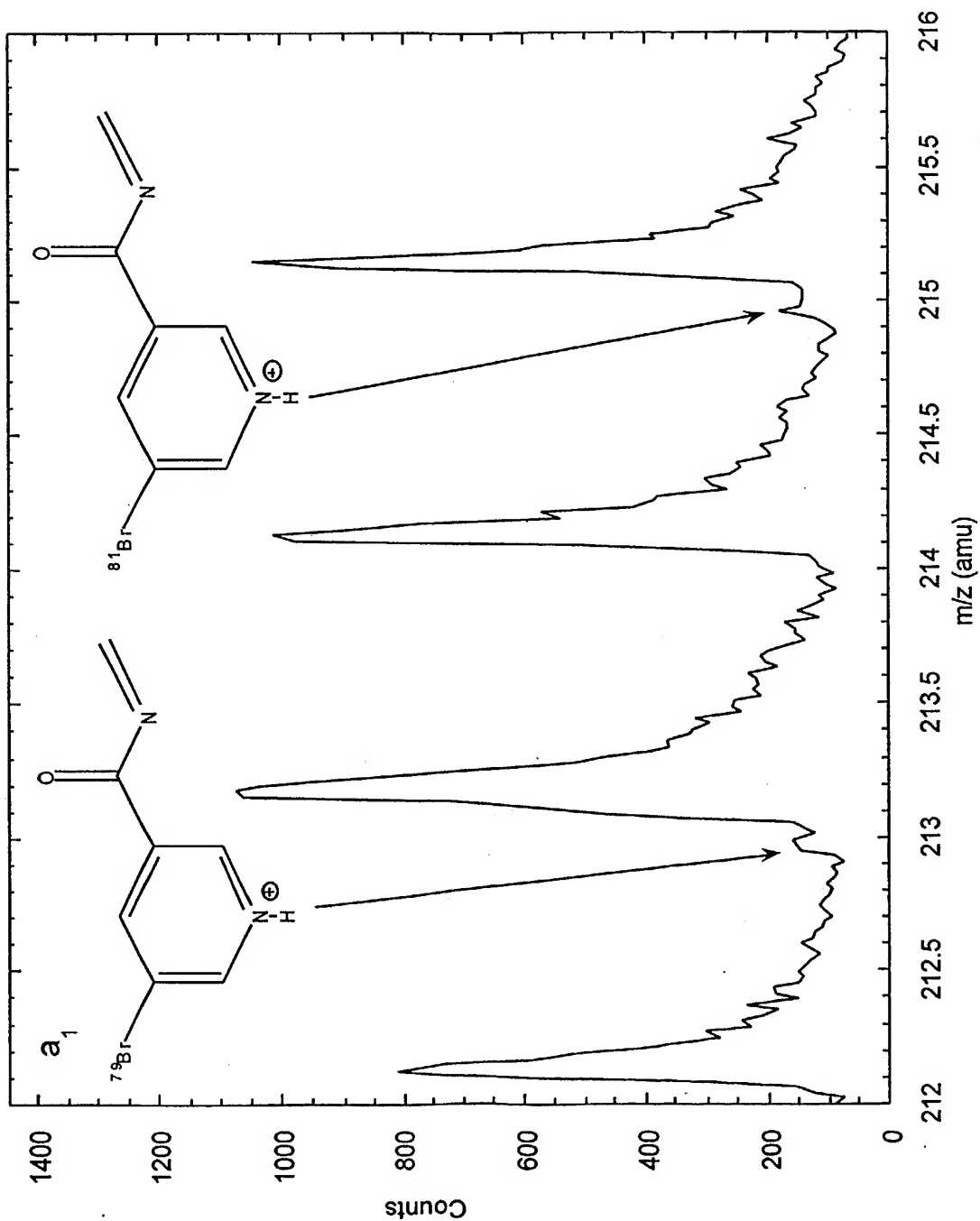


Figure 12B

Atty. Docket No.: 020444-000710
 Applicant: Luke V. Schneider et al.
 Title: MASS DEFECT LABELING FOR THE DETERMINATION OF
 OLIGOMER SEQUENCE
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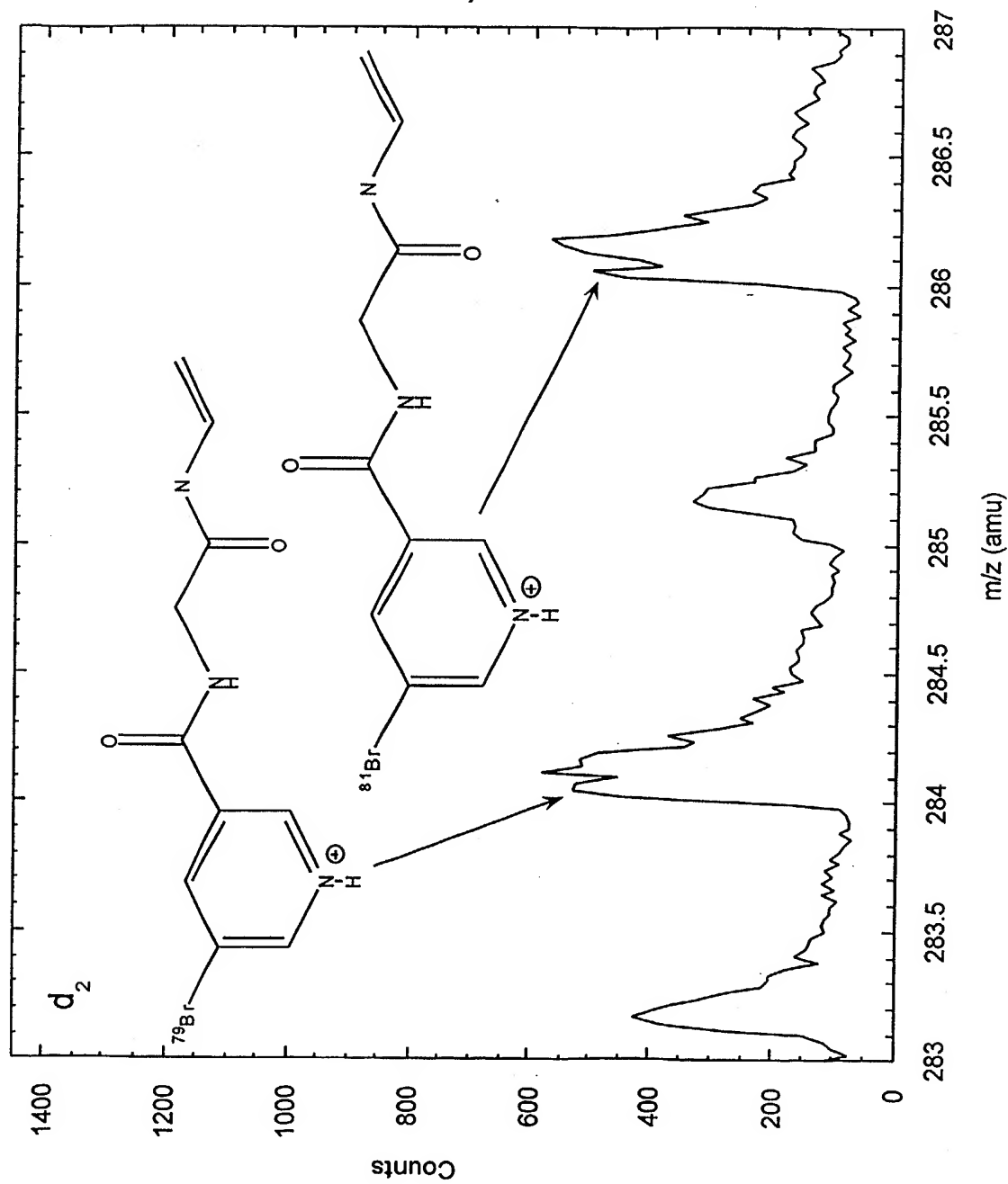


Figure 12C

Atty. Docket No.: 020444-000710
Applicant: Luke V. Schneider et al.
Title: MASS DEFECT LABELING FOR THE DETERMINATION OF
OLIGOMER SEQUENCE
Sheet 18 of 32

FIGURE 13A

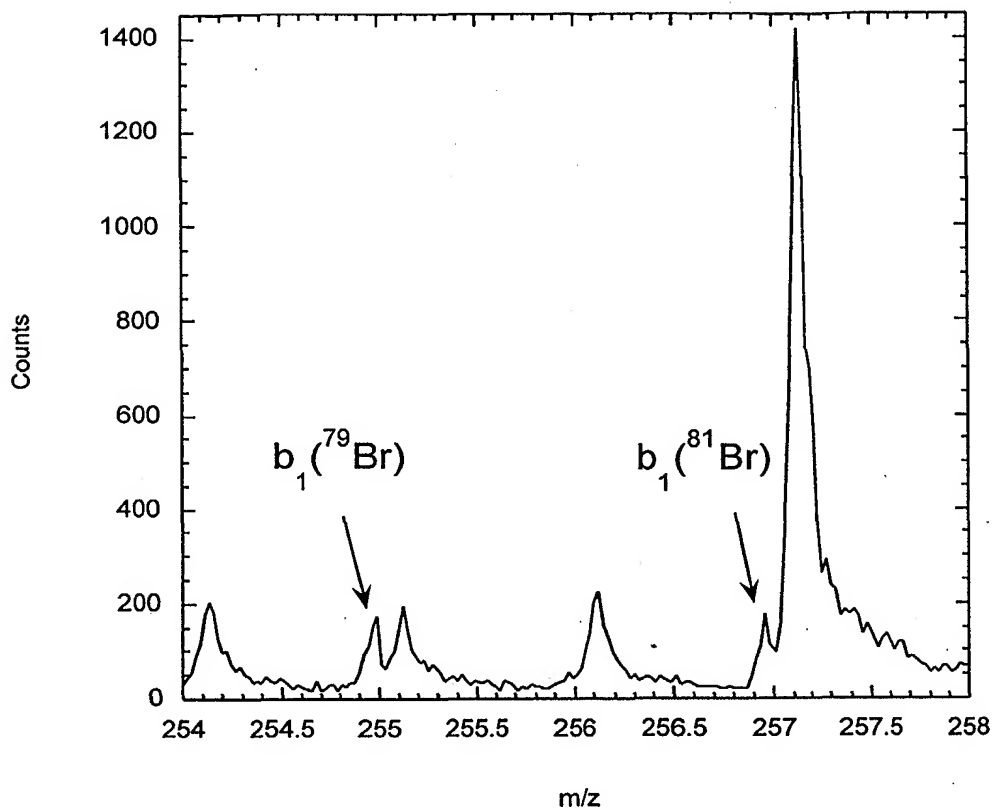


FIGURE 13B

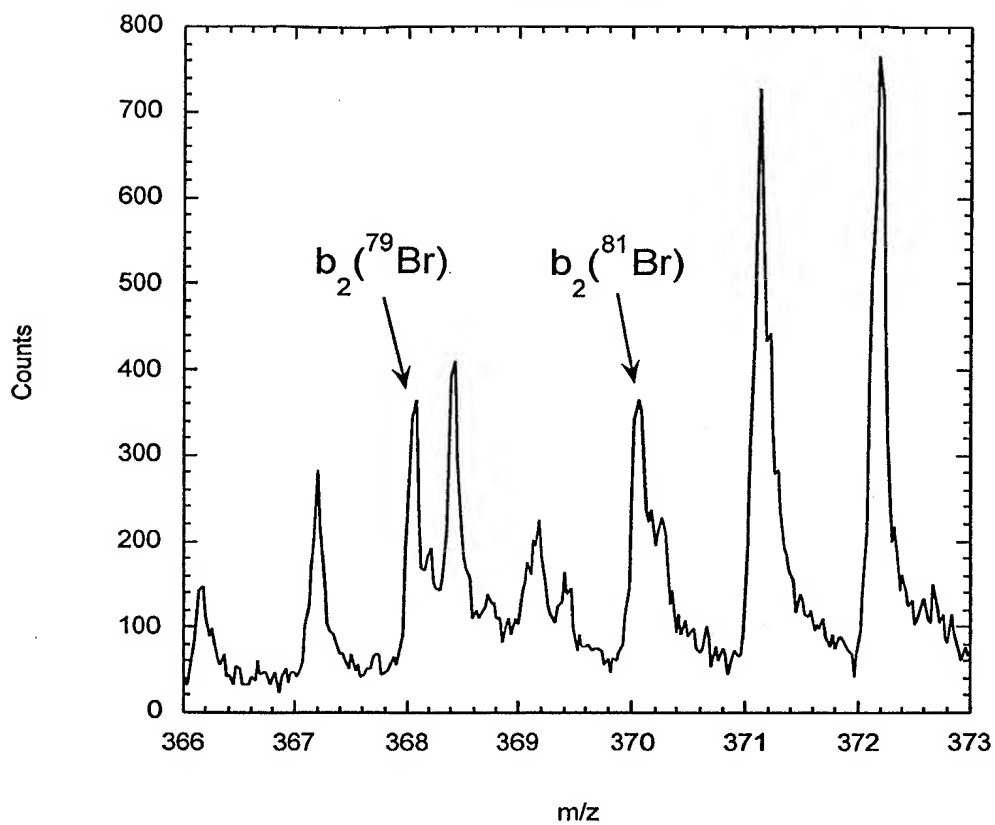


FIGURE 14A

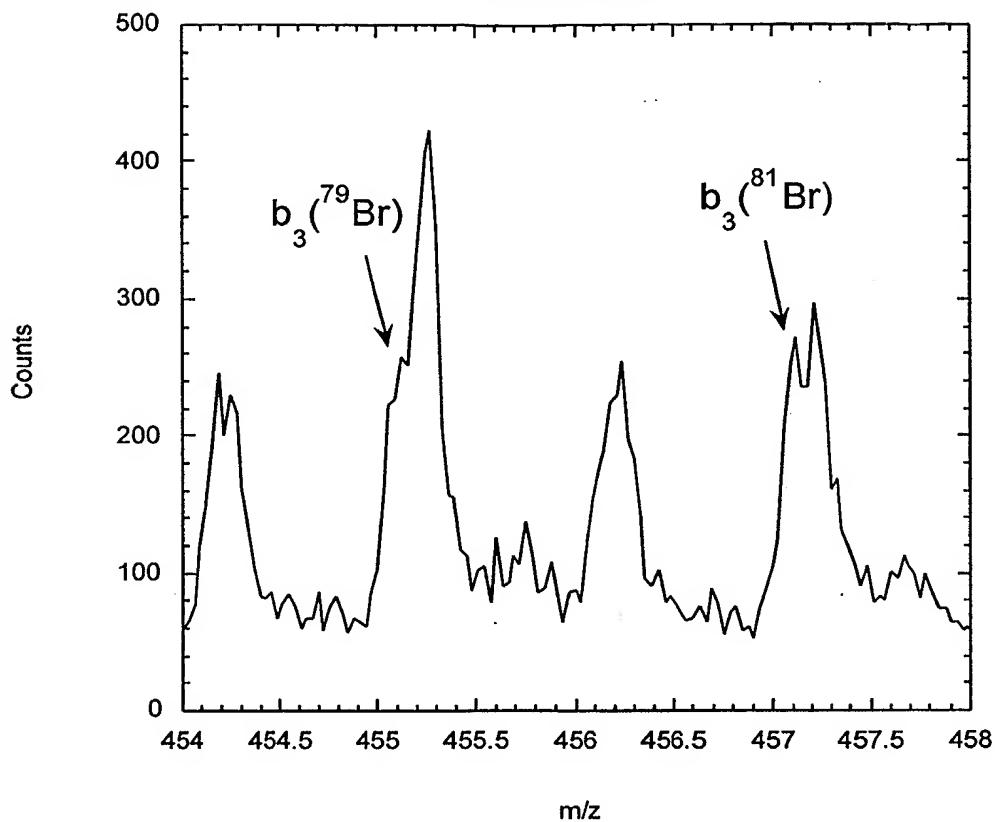
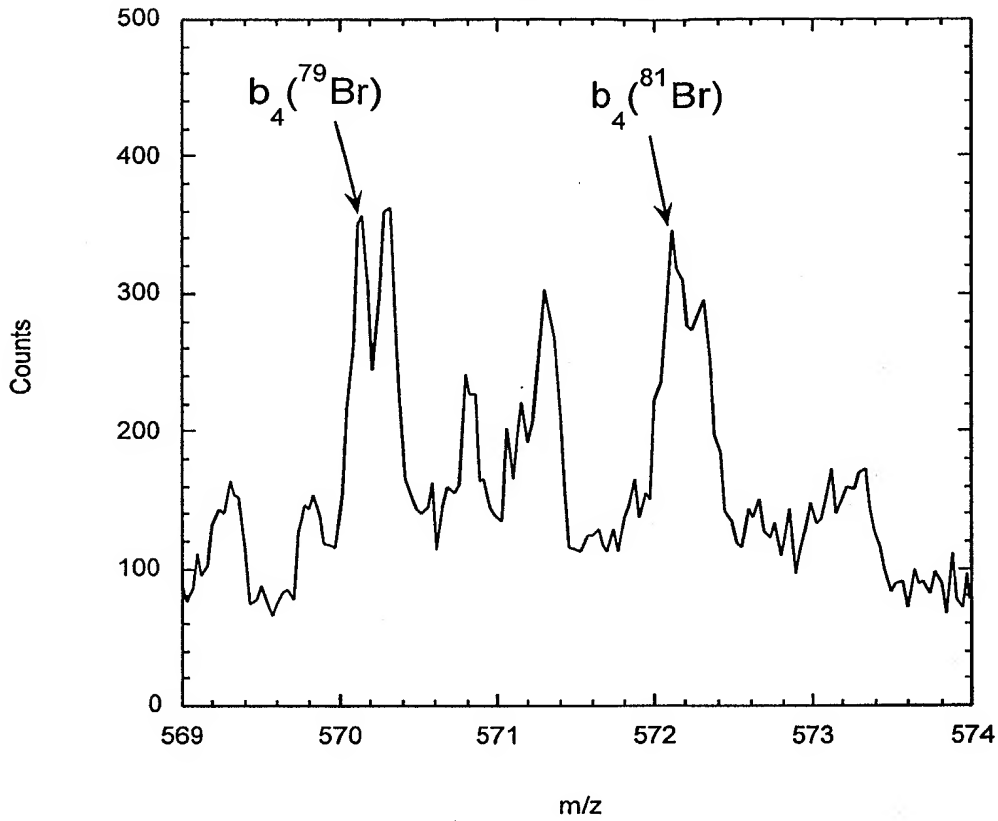
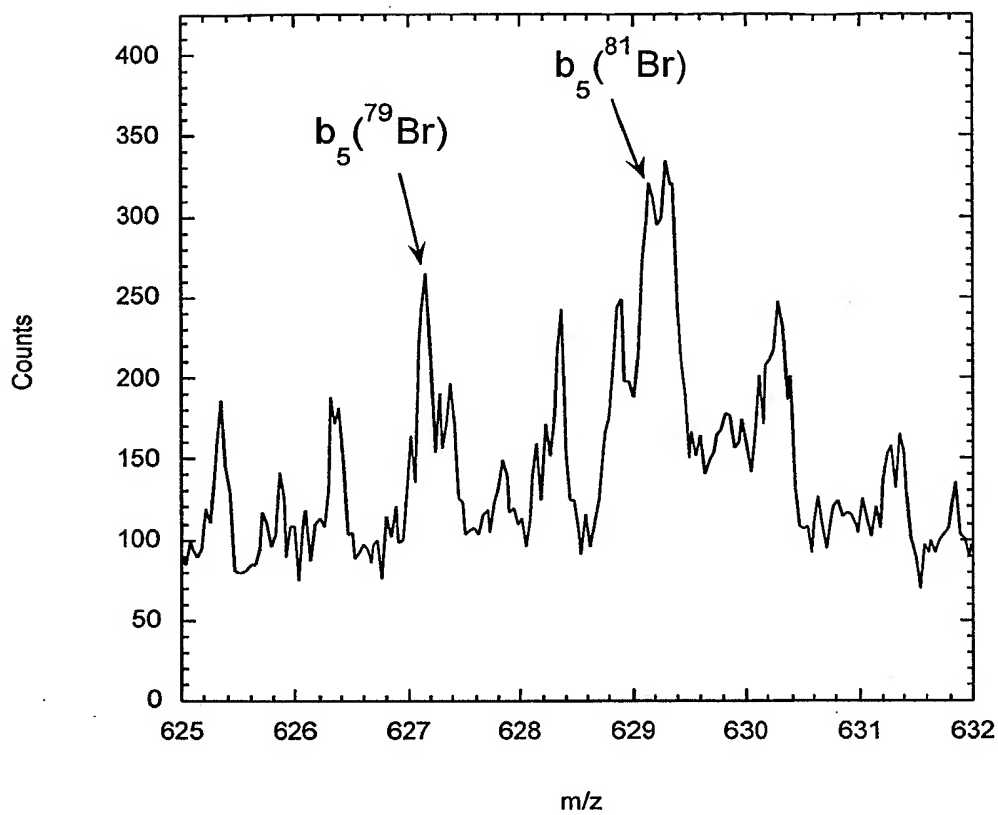


FIGURE 14B



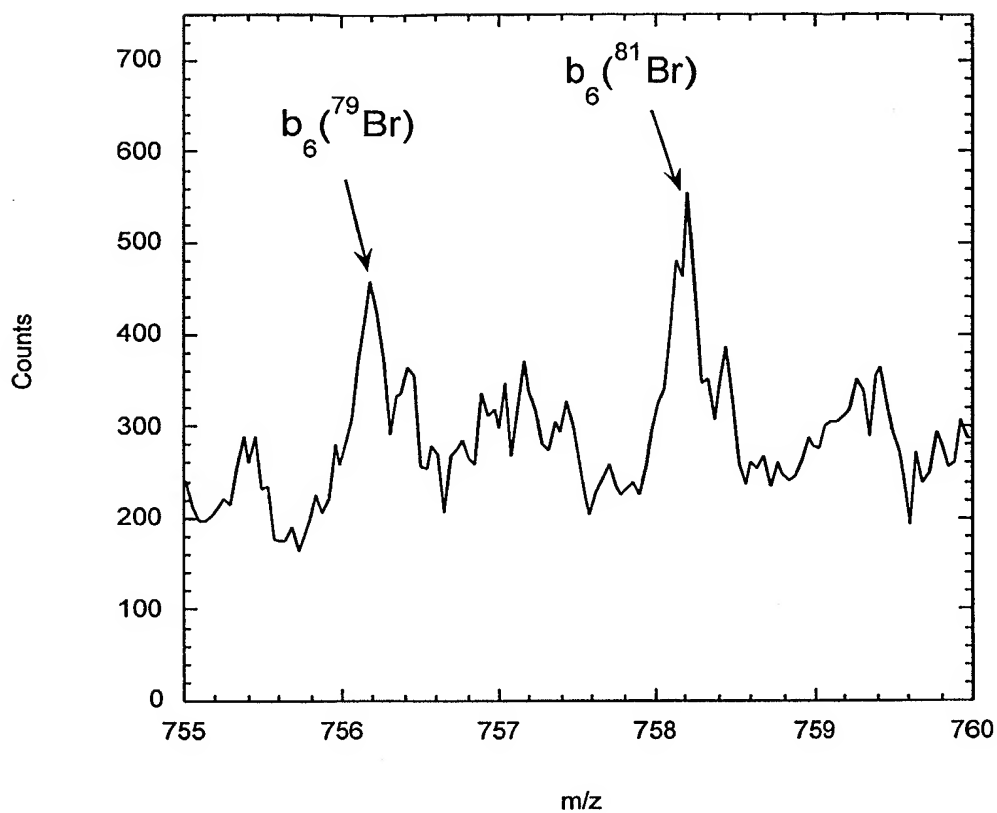
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FIGURE 15A



10035349-101001

FIGURE 15B



1005349-101901



Figure 16

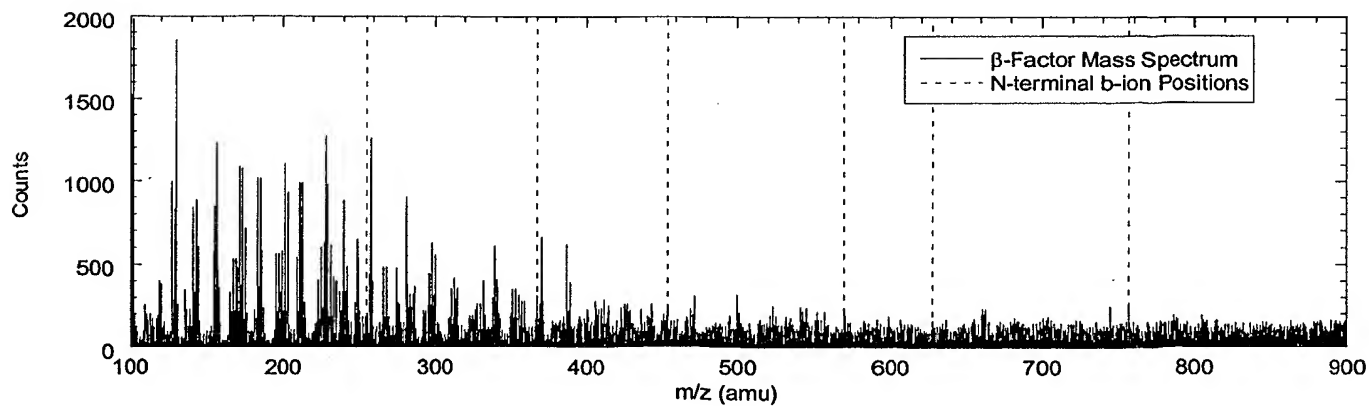
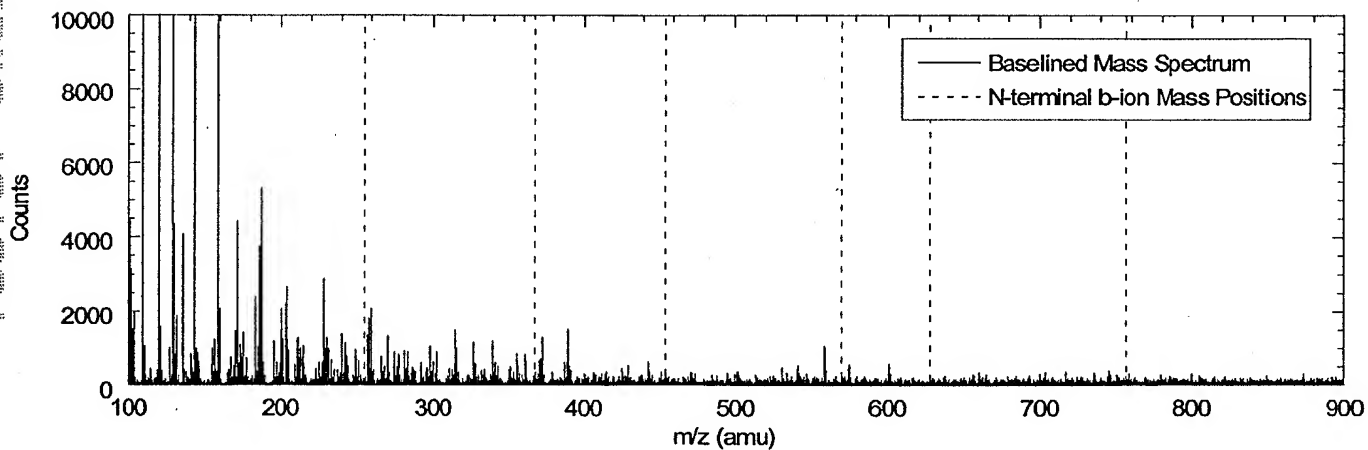
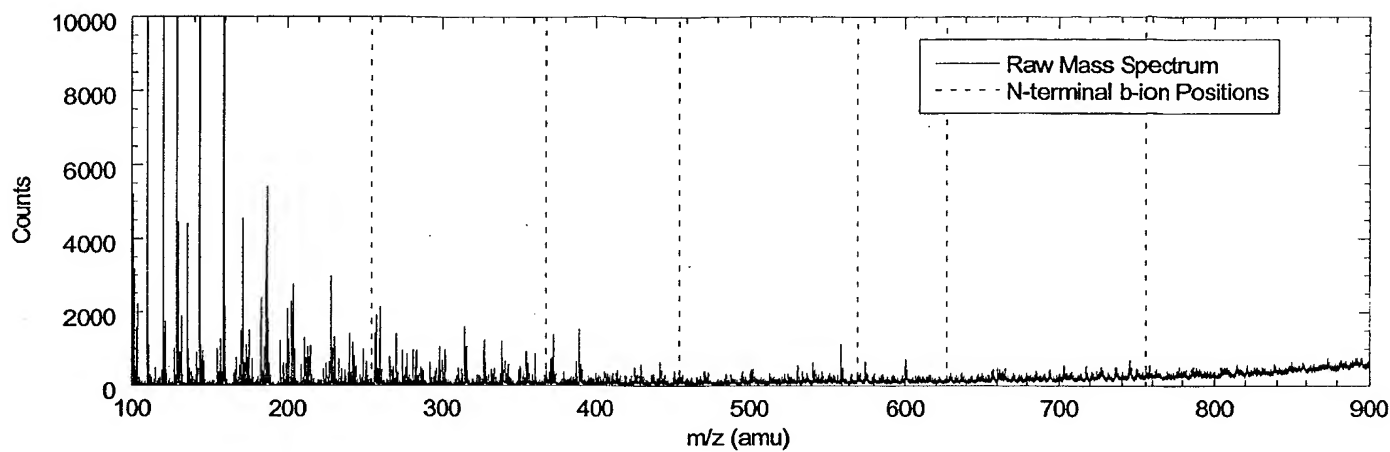


Figure 17

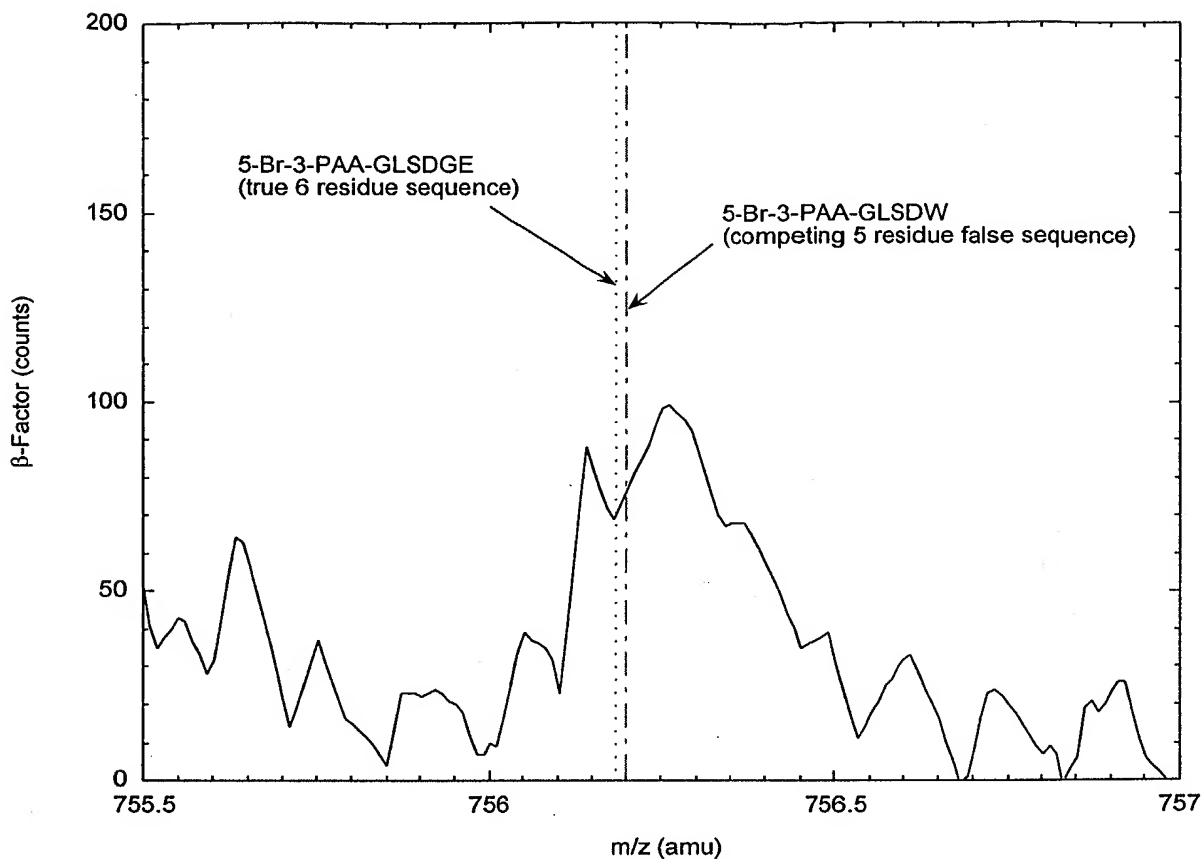
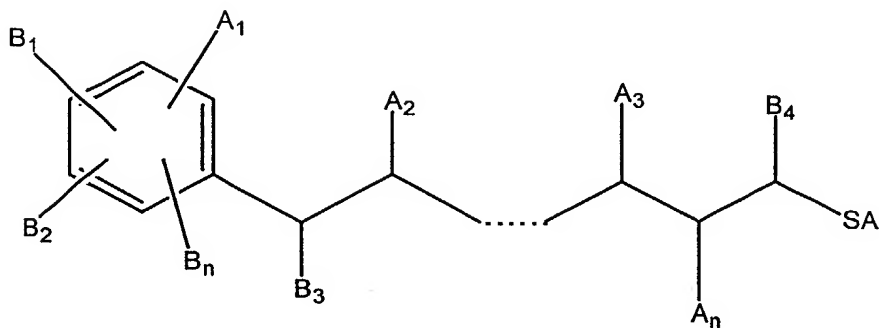
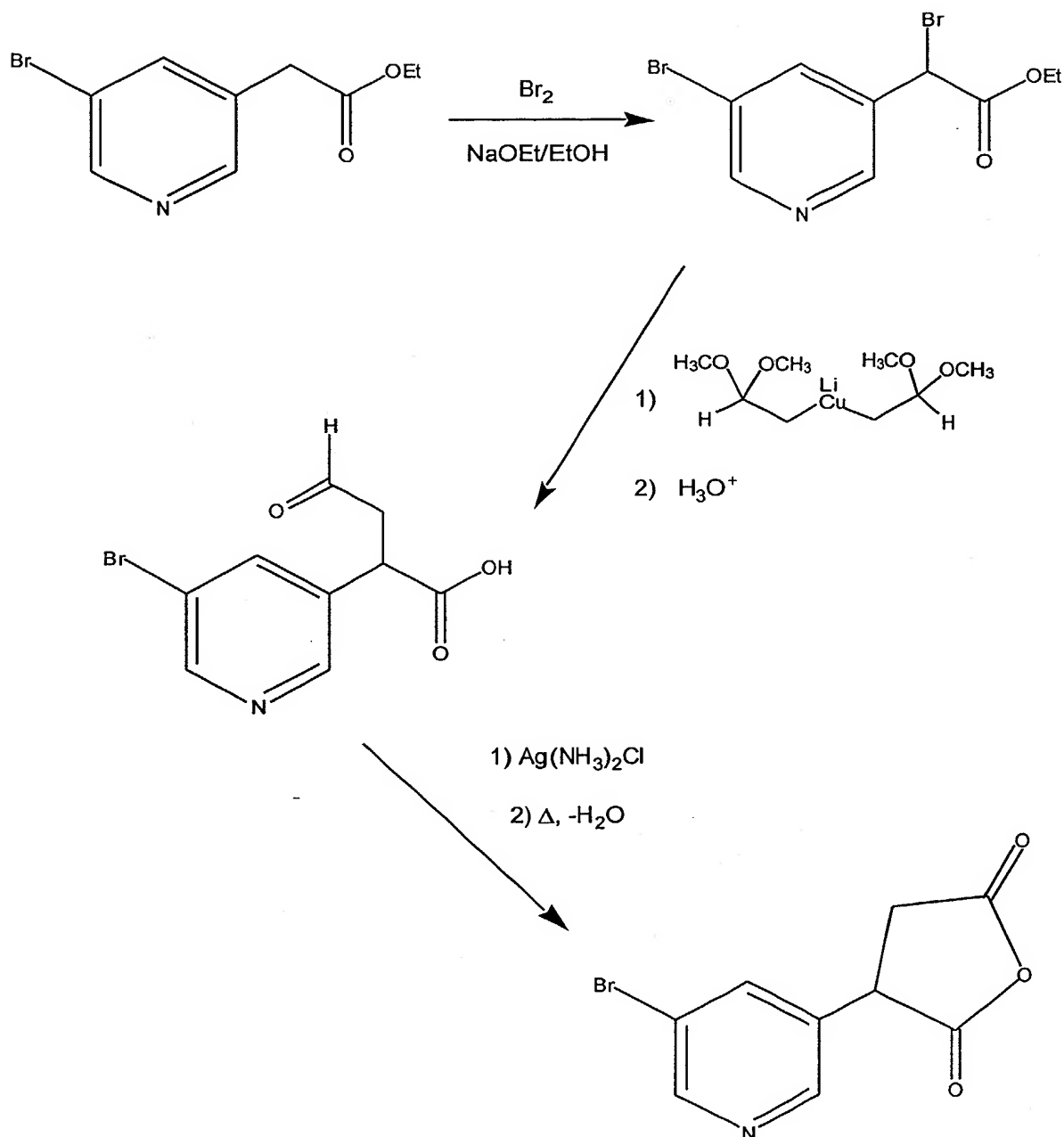


Figure 18A



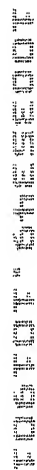
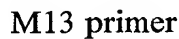
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Figure 18B



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7



MS
analysis

Figure 20A

ddATP *

Chemical structure of ddATP* (dideoxyadenosine triphosphate) with a 3' to 5' phosphoramidite modification. The structure shows the adenine base, deoxyribose sugar, and the triphosphate group. The 3' carbon of the sugar is linked via a phosphoramidite group to a 3' to 5' phosphoramidite linker, which is further connected to a 3' to 5' phosphoramidite linker, and finally to a 3' to 5' phosphoramidite linker. The 5' carbon of the sugar is linked via a triphosphate group to the adenine base.

Figure 20B

ddGTP*

The chemical structure shows a deoxyribose sugar with a 2',3'-bisphosphate group (indicated by two phosphate groups on the 2' and 3' carbons). The 5' carbon of the sugar is attached to a triphosphate group (three phosphate groups in series). The base is a guanine derivative with a 4-bromophenyl group attached to the 2-position of the guanine ring. The structure is labeled 'ddGTP*'.

Figure 20C

ddTTP*

The chemical structure of ddTTP* is shown. It consists of a dideoxyribose sugar (a five-membered ring with an oxygen atom at the top) attached to a thymine base (a six-membered ring with two carbonyl groups and an NH group). The sugar is linked to a triphosphate group (three phosphate groups in a chain). The triphosphate group is linked to a long chain (a hexamethylene chain) which is further linked to a 4-bromophenyl group (a benzene ring with a bromine atom at the para position).

Figure 20D

ddCTP*

The chemical structure of ddCTP* is shown. It consists of a deoxycytidine base (a pyrimidine ring with a carbonyl group at C2 and a nitrogen at N1) attached to a deoxyribose sugar. The sugar has a phosphate group at the 3' position and a triphosphate group at the 5' position. The triphosphate group is represented as three phosphate groups linked together, with the terminal phosphate having a hydroxyl group. The label 'ddCTP*' is placed above the structure.

Figure 21

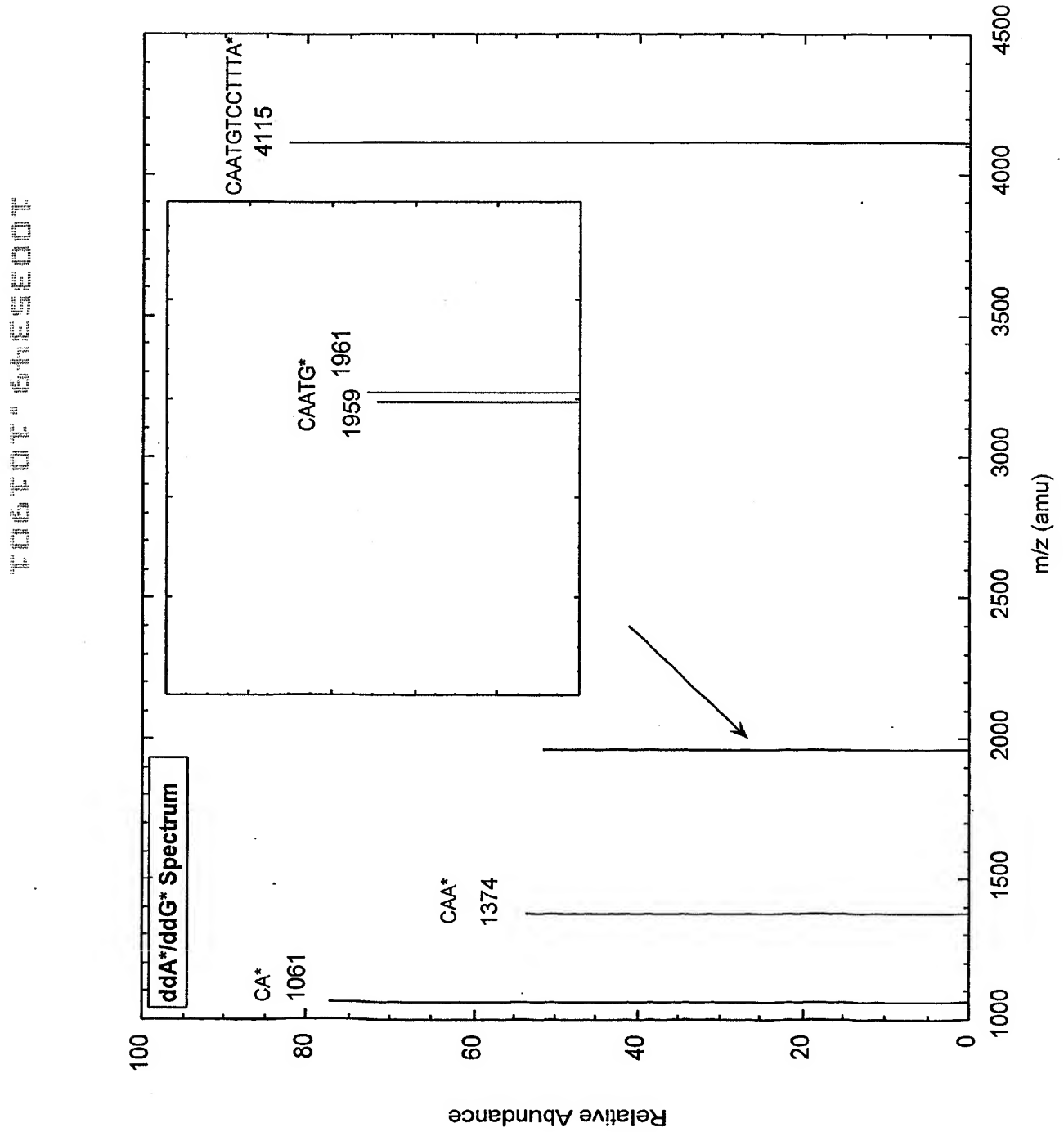
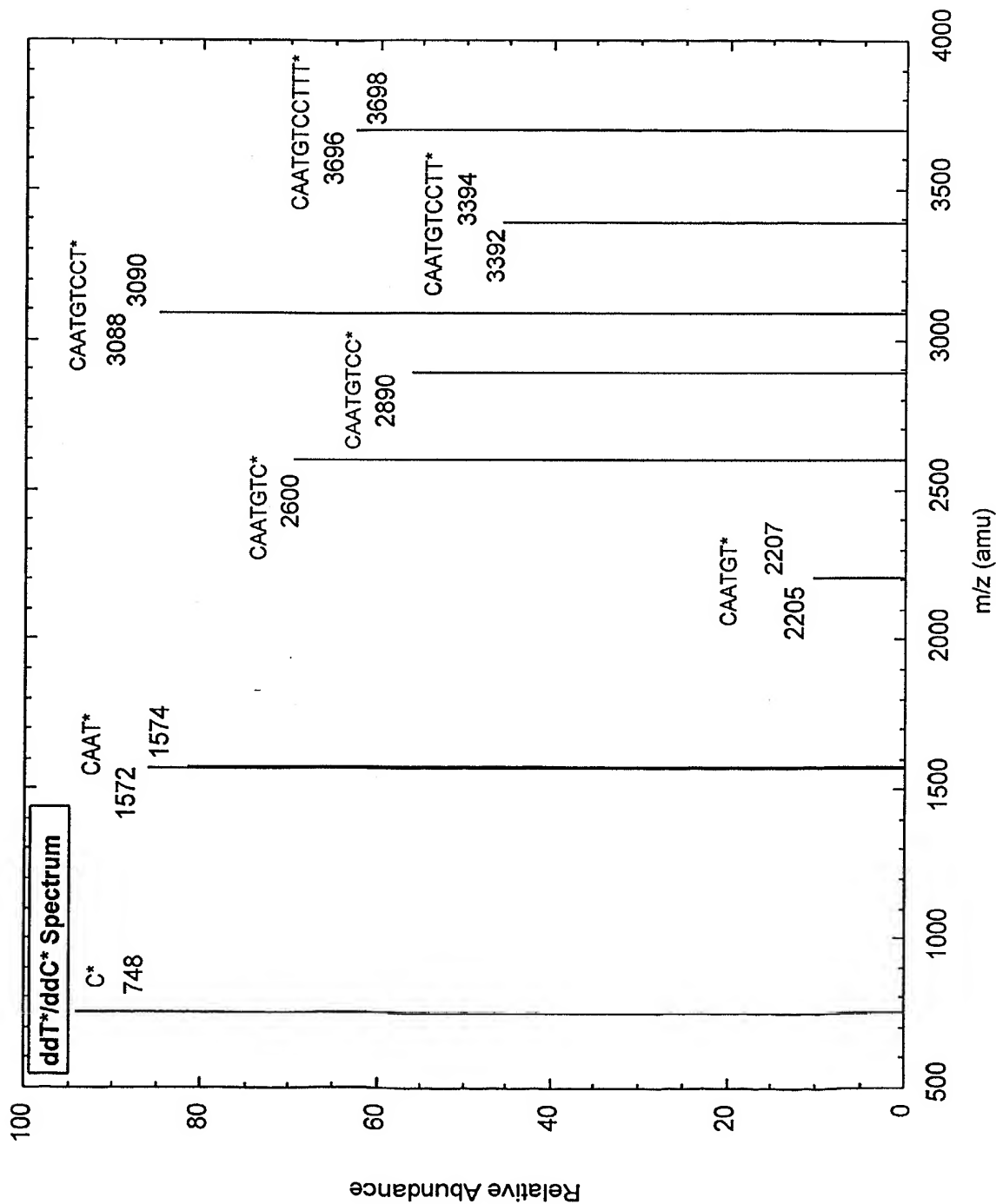


Figure 22



705T0T* 54E5E00T